

IN THE CLAIMS:

Kindly cancel claims 1-9 and insert new claims 10-25 as follows:

1 ~~10~~. An optical lens system simultaneously focusing light in both the 3-5 and 8-12 microwave spectral bands onto a single focal plane, comprising:

a first, negative zinc sulfide lens,

a second, positive zinc selenide lens, and

a third, negative gallium arsenide lens,

each of said first through third lenses being positioned along a chief ray and capable of simultaneous dual band imagery in both the 3-5 and 8-12 micrometer spectral bands.

2 ~~11~~. An optical lens system according to claim ~~10~~¹, further comprising:

a fourth, negative zinc sulfide lens,

a fifth, positive zinc selenide lens,

a sixth, negative gallium arsenide lens,

each of said first through sixth lenses being positioned along a chief ray, said first through third and said fourth through sixth lenses forming two spaced triplets.

3 ~~12~~. An optical lens system according to claim ~~11~~², wherein said two spaced triplets form a Petzval-type lens.

4 / 13. An optical lens system according to claim 11, further comprising a field
flattener lens, and a diaphragm.

5 / 14. An optical lens system according to claim 10, wherein at least one of said
lenses has an aspheric surface.

6 / 15. An optical lens system according to claim 11, wherein a surface on said
second zinc selenide lens is aspheric.

7 / 16. An optical lens system according to claim 11, wherein a surface on said fifth
zinc selenide lens is aspheric.

8
17. An optical lens system according to claim 11, wherein said lens system has
2
the following basic lens data:

BASIC LENS DATA					
Surf.	Radius	Thickness	Medium		Refrac. Index
0	0.00000000	1.50000000 E+20	AIR		
1	0.00000000	-18.27594933	AIR		
2	7.28700000	0.33000000	MATL	C ZnS	2.200833
3	4.64064000	0.06544000	AIR		
4	5.14400000	0.98000000	MATL	ZnSe	2.406485
5	-33.65800000	0.05074000	AIR		
6	-21.27500000	0.28000000	MATL	GaAs	3.277944
7	33.65800000	4.27000000	AIR		
8	21.27500000	0.30000000	MATL	C ZnS	2.200833
9	7.05700000	0.22000000	AIR		
10	5.14400000	0.52500000	MATL	ZnSe	2.406485
11	0.00000000	0.21700000	AIR		
12	2.20300000	0.22500000	MATL	GaAs	3.277944
13	1.90900000	1.01703000	AIR		
14	0.00000000	0.08000000	MATL	ZnSe	2.406485
15	0.00000000	0.10000000	MATL		
16	0.00000000	2.50000000	AIR		
17	0.00000000	0.00000000	AIR		

- 9
18. An optical detection system comprising:
- a lens system simultaneously focusing light in both the 3-5 and 8-12 microwave spectral bands onto a single focal plane, wherein said lens system includes:
- a first, negative zinc sulfide lens,
- a second, positive zinc selenide lens, and
- a third, negative gallium arsenide lens,
- each of said first through third lenses being positioned along a chief ray and capable of simultaneous dual band imagery in both the 3-5 and 8-12 micrometer spectral bands; and
- a detector located at said single focal plane.

- 10
19. An optical detection system according to claim 18, wherein said lens system further includes:
- a fourth, negative zinc sulfide lens,
- a fifth, positive zinc selenide lens,
- a sixth, negative gallium arsenide lens,
- each of said first through sixth lenses being positioned along a chief ray, said first through third and said fourth through sixth lenses forming two spaced triplets.

- 11
20. An optical detection system according to claim 19, wherein said two spaced triplets form a Petzval-type lens.

12

21.

An optical detection system according to claim ~~18~~⁹, further comprising a field flattener lens, and a diaphragm.

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22.

An optical detection system according to claim ~~18~~⁹, wherein at least one of said lenses has an aspheric surface.

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23.

An optical detection system according to claim ~~18~~⁹, wherein a surface on said second zinc selenide lens is aspheric.

15

24.

An optical detection system according to claim ~~19~~¹⁰, wherein a surface on said fifth zinc selenide lens is aspheric.

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25.

An optical detection system according to claim 19, wherein said lens system

has the following basic lens data:

BASIC LENS DATA					
Surf.	Radius	Thickness	Medium		Refrac. Index
0	0.00000000	1.50000000 E+20	AIR		
1	0.00000000	-18.27594933	AIR		
2	7.28700000	0.33000000	MATL	C ZnS	2.200833
3	4.64064000	0.06544000	AIR		
4	5.14400000	0.98000000	MATL	ZnSe	2.406485
5	-33.65800000	0.05074000	AIR		
6	-21.27500000	0.28000000	MATL	GaAs	3.277944
7	33.65800000	4.27000000	AIR		
8	21.27500000	0.30000000	MATL	C ZnS	2.200833
9	7.05700000	0.22000000	AIR		
10	5.14400000	0.52500000	MATL	ZnSe	2.406485
11	0.00000000	0.21700000	AIR		
12	2.20300000	0.22500000	MATL	GaAs	3.277944
13	1.90900000	1.01703000	AIR		
14	0.00000000	0.08000000	MATL	ZnSe	2.406485
15	0.00000000	0.10000000	MATL		
16	0.00000000	2.50000000	AIR		
17	0.00000000	0.00000000	AIR		

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Concluded